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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,317	12/20/2001	Jie Liang	TI-32967	8019
23494	7590	10/24/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			PEZZLO, JOHN	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 10/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. **10/026,317**

Applicant(s)

LIANG, JIE

Examiner

John Pezzlo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 17-26 is/are rejected.
- 7) ☒ Claim(s) 8-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

I. Claims 20 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Regarding claims 20 and 25 – The last paragraph of each claim states "a size of the transmission based on the information generated by the channel metric calculator". This statement is indefinite since the size is not defined. The size could relate to either the transmission power or the transmission frequency band or some other parameter, the parameter needs to explicitly be stated in the claims to which the size is related.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 1-7, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stillman et al. (US 5,530,701) hereinafter Stillman in view of Li et al. (US 6,947,748 B2) hereinafter Li.

1. Regarding claim 1 – Stillman does not expressly disclose tuning a receiver to a frequency band of interest, taking a snapshot of a communications channel at the frequency band of interest, calculating a channel metric based on the channel snapshot, comparing the channel metric against a threshold, and performing an action based on the result of the comparison.

Li teaches tuning a receiver to a frequency band of interest, taking a snapshot of a communications channel at the frequency band of interest, calculating a channel metric based on the channel snapshot, comparing the channel metric against a threshold, and performing an action based on the result of the comparison, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide tuning a receiver to a frequency band of interest, taking a snapshot of a communications channel at the frequency band of interest, calculating a channel metric based on the channel snapshot, comparing the channel metric against a threshold, and performing an action based on the result of the comparison. The suggestion/motivation for doing so would have been that Stillman discloses changing a frequency band based on interference, refer to the abstract and column 1 lines 54 to 67 and column 2 lines 1 to 3 and column 17 lines 45 to 55, but does not provide the details on how the interference is determined

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and the new frequency is selected whereas Li provides the details. The benefit being that Stillman will be able to operate in a better frequency band and the quality of the communication will be improved.

2. Regarding claim 2 – Stillman does not expressly disclose saving received signal levels at regular frequency intervals within the frequency band of interest.

Li teaches saving received signal levels at regular frequency intervals within the frequency band of interest, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide saving received signal levels at regular frequency intervals within the frequency band of interest. The suggestion/motivation for doing so would have been that Stillman discloses changing a frequency band based on interference, refer to the abstract and column 1 lines 54 to 67 and column 2 lines 1 to 3 and column 17 lines 45 to 55, but does not provide the details on how the interference is determined and the new frequency is selected whereas Li provides the details. The benefit being that Stillman will be able to operate in a better frequency band and the quality of the communication will be improved.

3. Regarding claim 3 – Stillman does not expressly disclose averaging the received signal levels over the frequency band of interest.

Li teaches averaging the received signal levels over the frequency band of interest, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide averaging the received signal levels over the frequency band of interest. The suggestion/motivation for doing so would have been that Stillman discloses changing a frequency band based on interference, refer to the abstract and column 1 lines 54 to 67 and column 2 lines 1 to 3 and column 17 lines 45 to 55, but does not provide the details on how the interference is determined and the new frequency is selected whereas Li provides the details. The benefit being that Stillman will be able to operate in a better frequency band and the quality of the communication will be improved.

4. Regarding claim 4 – Stillman does not expressly disclose integrating the received signal levels over the frequency band of interest.

Li teaches integrating the received signal levels over the frequency band of interest, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide integrating the received signal levels over the frequency band of interest. The suggestion/motivation for doing so would have been that Stillman discloses changing a frequency band based on interference, refer to the abstract and column 1 lines 54 to 67 and column 2 lines 1 to 3 and column 17 lines 45 to 55, but does not provide the details on how the interference is determined and the new frequency is selected whereas Li provides the details. The benefit being that Stillman will be able to operate in a better frequency band and the quality of the communication will be improved.

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5. Regarding claim 5 – Stillman does not expressly disclose adding the received signal levels over the frequency band of interest.

Li teaches adding the received signal levels over the frequency band of interest, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide adding the received signal levels over the frequency band of interest. The suggestion/motivation for doing so would have been that Stillman discloses changing a frequency band based on interference, refer to the abstract and column 1 lines 54 to 67 and column 2 lines 1 to 3 and column 17 lines 45 to 55, but does not provide the details on how the interference is determined and the new frequency is selected whereas Li provides the details. The benefit being that Stillman will be able to operate in a better frequency band and the quality of the communication will be improved.

6. Regarding claim 6 - Stillman does not expressly disclose continually saving received signal levels for an extended amount period of time to provide history information about the frequency band of interest.

Li teaches continually saving received signal levels for an extended amount period of time to provide history information about the frequency band of interest, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide continually saving received signal levels for an extended amount period of time to provide history information about the frequency band of

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interest. The suggestion/motivation for doing so would have been that Stillman discloses changing a frequency band based on interference, refer to the abstract and column 1 lines 54 to 67 and column 2 lines 1 to 3 and column 17 lines 45 to 55 and column 18 lines 39 to 54, but does not provide the details on how the interference is determined and the new frequency is selected whereas Li provides the details. The benefit being that Stillman will be able to operate in a better frequency band and the quality of the communication will be improved.

7. Regarding claim 7 - Stillman does not expressly disclose transmitting a packet if the channel metric is less than the threshold.

Li teaches transmitting a packet if the channel metric is less than the threshold, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64 and column 7 lines 43 to 58.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide transmitting a packet if the channel metric is less than the threshold. The suggestion/motivation for doing so would have been that Stillman discloses changing a frequency band based on interference, refer to the abstract and column 1 lines 54 to 67 and column 2 lines 1 to 3 and column 17 lines 45 to 55, but does not provide the details on how the interference is determined and the new frequency is selected whereas Li provides the details. The benefit being that Stillman will be able to operate in a better frequency band and the quality of the communication will be improved.

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8. Regarding claim 17 – Stillman does not expressly disclose determining a wireless unit associated with the smallest channel metric.

Li teaches determining a wireless unit associated with the smallest channel metric, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64 and column 7 lines 43 to 58.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with Li to provide determining a wireless unit associated with the smallest channel metric. The suggestion/motivation for doing so would have been that Stillman discloses changing a master unit under certain circumstances, refer to column 2 lines 16 to 25 and column 17 lines 45 to 55, but does not provide the details on how the base station is changed, Li provides the details of taking measurements, which Stillman can utilize to make the switchover based on the measured metric. The benefit being that Stillman will be able to operate utilizing the best base station and the quality of the communication will be improved.

9. Regarding claim 18 – Stillman does not expressly disclose initiating a master-slave switch based on the result of the comparison.

Li teaches collecting metric information and relaying the information to the base station, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64 and column 7 lines 43 to 58.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with the data collected by Li to provide initiating a master-slave switch based on the result of the comparison. The suggestion/motivation for doing so would have

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been that Stillman discloses changing a master unit under certain circumstances, refer to column 2 lines 16 to 25 and column 17 lines 45 to 55, but does not provide the details on how the base station is changed, Li provides the details of taking measurements which Stillman can utilize to make the switchover based on the measured metric. The benefit being that Stillman will be able to operate utilizing the best base station and the quality of the communication will be improved.

10. Regarding claim 19 – Stillman does not expressly disclose the master-slave switch is not initiated if the difference between the smallest channel metric and the channel metric of the current master unit is less than a specified threshold.

Li teaches collecting metric information and relaying the information to the base station, refer to Figure 1B and column 2 lines 8 to 20 and column 3 lines 6 to 42 and column 5 lines 25 to 64 and column 7 lines 43 to 58.

At the time of the invention, it would have been obvious to an ordinary person of skill in the art to combine Stillman with the data collected by Li to provide that the master-slave switch is not initiated if the difference between the smallest channel metric and the channel metric of the current master unit is less than a specified threshold. The suggestion/motivation for doing so would have been that Stillman discloses changing a master unit under certain circumstances, refer to column 2 lines 16 to 25 and column 17 lines 45 to 55, but does not provide the details on how the base station is changed, Li provides the details of taking measurements which Stillman can utilize to make the switchover based on the measured metric. The benefit being that Stillman will be able to operate utilizing the best base station and the quality of the communication will be improved.

Allowable Subject Matter

Claims 8-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 20-26 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Fischer (US 5,371,734) discloses a MAC protocol for wireless network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (571) 272-3090. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C.

or faxed to:

(571) 273-8300

For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:

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2A15

500 Dulany Street

Alexandria, VA, 22313.

John Pezzlo

21 October 2005



JOHN PEZZLO
PRIMARY EXAMINER